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## Corporate governance and financial performance

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## **Corporate governance and financial performance: an emerging economy perspective**

### **Abstract**

This paper investigates the influence of firm-level corporate governance on financial performance of the listed firms in Bangladesh. Agency theory suggests that better corporate governance reduces expropriation costs, which in turn enhances investors' confidence in the firm's future cash flow and growth prospects, leading to higher firm valuation. Likewise, a decrease in private benefits is likely to cause an improved operating performance. This paper uses a questionnaire survey-based corporate governance index (CGI), comprising of the three dimensions - shareholder rights, independence and responsibilities of the board and management, and financial reporting and disclosures. The study results partly confirm the prediction of the agency theory, with a statistically significant positive relationship between a firm's corporate governance quality and its valuation, even though the relationship between firm level corporate governance and operating performance seems inconclusive.

*Key words* - corporate governance index, agency theory, financial performance, Bangladesh.

*JEL Classifications:* G32, G34, G38, O16

## 1. Introduction

Corporate governance (CG) has become a critical consideration for the developed as well as developing economies to maintain sustainable economic and business sector development. Bangladesh, like many other developing economies, has been experiencing broad-based corporate governance reform initiatives since 2001 under the guidance and sponsorships of the International Financial Institutions (IFIs) such as the World Bank, the International Monetary Fund, and the Asian Development Bank. Much of these reform initiatives are based on the agency theory-based Anglo-American model of corporate governance (see Reed, 2002). The IFIs have been pursuing developing economies to use this model as the main framework for corporate governance reform. This brings a number of related questions: Do these market-based arguments and prescriptions of a developed economy hold true for a developing economy? Is the relationship between firm-specific CG and firm performance consistent with the prediction of the agency theory? How do firm-specific CG practices explain financial performance of a firm?

To answer these questions, it is imperative to investigate the influence of firm-specific CG practices on the performance of a firm in a developing economy. In order to understand the dynamics of CG-performance relationship of a firm, it is also important to do a country-specific study (as opposed to cross-country study), since each country is different in terms of its legal, regulatory and market institutions.

Whilst available literature (Gompers *et al.*, 2003; Klapper and Love, 2004; Chhaochharia and Laeven, 2009; Ammann *et al.*, 2011; Morey *et al.*, 2009) supports the prediction of the agency theory in relation to a positive association between firm-level corporate governance rating and firm valuation, these cross-country analyses are based on either developed and/or emerging markets. A number of recent country-specific studies also find corporate governance quality having a positive influence on firm valuation in Korea (Black *et al.*, 2006), India (Balasubramanian *et al.* 2010), Brazil (Braga-Alves and Shastri, 2011), and Mexico (Price *et al.*, 2011). However, most of these studies do not address the influence of corporate governance on a firm's operating performance. Two

notable cross-country studies (e.g., Klapper and Love, 2004; Bhagat and Bolton, 2008) find positive relationship between CG index and firm profitability, whereas Gompers *et al.*, (2003) find mixed evidence on this issue<sup>1</sup>. Interestingly, three country-specific studies (e.g., Black *et al.*, 2006; Braga-Alves and Shastri, 2011; Price *et al.*, 2011) do not find any effect of firm-level governance index on a firm's operating performance in emerging economies such as Korea, Brazil and Mexico. This inconclusive evidence seems surprising from a theoretical point of view as the agency theory suggests a positive influence of CG on both firm valuation and operating performance.

In this respect, this paper examines whether firm-level corporate governance has an influence on a firm's valuation and profitability within a single jurisdiction of a developing economy such as Bangladesh. To the best of our knowledge no study focuses on the linkage between corporate governance quality and firm performance in Bangladesh. This study is based on 140 listed financial and non-financial firms in Bangladesh.

The prime motivation of this study is to contribute to the existing agency theory-based literature on the relationship between corporate governance and financial performance from the perspective of an emerging economy such as Bangladesh, where the capital market and the corporate sector are very weak, and the financial system is predominantly bank-based. Bangladesh represents an interesting case for this study due to the ongoing reform initiatives in the financial sector of this country. However, little is known about the effect of financial sector reform on capital market development in terms of relatively better corporate governance practices and better investors' confidence. This study is likely to have important policy implications in relation to the impact of corporate governance reform that was undertaken to strengthen the capacity building of the capital market.

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<sup>1</sup> Gompers *et al.*, (2003) find that governance index is positively related to average net profit margin, but no relationship is found between governance index and return on equity.

Another important motivation of this study is to measure overall corporate governance practices of a firm rather than individual governance components. This is because firm-level corporate governance is a complex part of corporate strategy, which is simultaneously determined by several factors including the rights of the shareholders, independence and responsibilities of the board and management, and disclosures and transparency. The Ordinary Least Square (OLS) regression is used to examine the effect of a firm's overall governance quality measured through a corporate governance index (CGI).

The reminder of this paper is organized as follows: Section 2 reviews the available literature and section 3 outlines the research question and empirical model. Section 4 presents the empirical analysis, and section 5 analyses the study results. Finally, section 6 concludes the paper.

## **2. Literature Review**

The empirical evidence of the influence of individual corporate governance mechanisms on financial performance is highly inconclusive. Whilst several studies (e.g., La Porta, Lopez-de-Silanes, Shleifer and Vishny, henceforth LLSV, 2002) find a positive relationship between ownership concentration and financial performance, and thus support the prediction of the agency theory, others (e.g., Hovey et al., 2003) find inconsistent or contrasting evidence in this regard. Among others, Gugler et al., (2008) support the notion of the agency theory with respect to a positive influence of insider ownership and firm performance. They also find institutional ownership having a positive effect on performance in the USA, although the shareholding of financial institutions is found to have a negative effect on firm performance in other Anglo-Saxon countries and in Europe. Mitton (2002) finds institutional and outside ownership concentration being positively associated with financial performance in East Asian economies.

A related literature (e.g., LLSV, 2002) supports the prediction of the agency theory in relation to a positive influence of investors' legal protection on financial performance.

Mitton (2002) finds disclosure quality having a positive influence on firm performance. Contrary to claims in the literature, Bhagat and Bolton (2008) find board independence being negatively correlated with operating performance. Other studies (e.g., Kiel and Nicholson, 2003; Bennedsen et al., 2008) also find inconsistent evidence with regard to the relationship between different board and management issues (e.g., board size, board interlocks and CEO duality) and financial performance.

A number of recent studies (e.g., Dahya et al., 2008; Martynova and Renneboog, 2010) develop country-level corporate governance index to address various potential agency conflicts between corporate constituencies: namely, between shareholders and managers, between shareholders and bondholders, and between majority and minority shareholders. Other studies (e.g., Klapper and Love, 2004; Gompers et al., 2003; Bhagat and Bolton, 2008; Morey et al., 2009) use a firm-level governance index comprising a number of elements of individual governance components. These studies support the prediction of the agency theory with reference to a positive influence of corporate governance on both the valuation and operating performance of a firm<sup>2</sup>. Braga-Alves and Shastri (2011) also find that voluntary reform in CG practices (measured through firm-specific corporate governance indices) is positively related with firm valuation in Brazil, where both legal environment and investors' protection are poor. This observation is consistent with the findings of other country-specific studies (Black *et al.* 2006; Balasubramanian et al. 2011; Price et al., 2011) that examine the effect of overall governance quality on firm valuation in emerging economies such as Korea, India and Mexico. Claessens (2003) argues that better corporate governance can enhance firm value as well as operating performance, through more efficient management, better allocation of assets, better stakeholder management and other improved mechanisms.

### **3. Hypothesis and model**

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<sup>2</sup> Contrary to claims in the literature, Bhagat and Bolton (2008) find that governance measures to be uncorrelated with future stock market performance.

This paper is complementary to a growing body of literature that examines the relationship between firm-level corporate governance and financial performance. More specifically, it addresses the following hypothesis:

**H1.** Corporate governance quality is positively associated with firm valuation and operating performance.

This paper follows, among others, Black *et al.*, (2006) in incorporating a corporate governance index (CGI) as an important determinant of a firm's valuation and operating performance. Moreover, controlling shareholders' ownership is taken as an additional governance variable that has not been incorporated into the CGI. It uses two widely-used market-based firm valuation measures as the dependent variables, namely the Tobin's Q and Market-to-Book ratio (denoted as MKT2BK), that have been used in several studies (e.g., Klapper and Love, 2004; Black *et al.*, 2006; LLSV, 2002). Tobin's Q is calculated as the ratio of market value of assets to the book value of assets, where market value of assets is the total debt plus market capitalization. Market-to-Book is the ratio of market capitalization to shareholders' equity, where shareholders' equity (or net worth) is the difference between the firm's total assets and total debt.

This study also follows, among others, Gompers *et al.*, (2003) and Gedajlovic and Shapiro (2002) in using three accounting-based profitability measures: return on assets (ROA), return on equity (ROE), and net profit margin (NPM) as dependent variables. ROA is the ratio of net income (i.e., earnings after interests and taxes) to the book value of assets, and ROE is measured as the ratio of net income to shareholders' equity. NPM is computed as the ratio of net income to total sales. The use of alternative valuation and profitability measures is intended to examine the relative degree of influence of a firm's corporate governance standard.

### *3.1. The regression model*

In order to assess the effect of corporate governance on firm performance, the following model is estimated:

$$\begin{aligned} \text{Firm performance } (\gamma) = & \alpha + \beta_1 (\text{CGI}) + \beta_2 (\text{Controlling Ownership}) + \beta_3 (\text{Firm Age}) + \\ & \beta_4 (\text{Growth}) + \beta_5 (\text{Leverage}) + \beta_6 (\text{Investment}) + \beta_7 (\text{Intangible} \\ & \text{Assets}) + \beta_8 (\text{Firm Size}) + \beta_9 (\text{Industry Dummies}) + \varepsilon \dots \dots \dots (1) \end{aligned}$$

This model incorporates two valuation measures (e.g., Tobin's Q and the Market-to-Book ratio) and three operating performance measures (e.g., ROA, ROE, and NPM). CGI and controlling ownership are likely to be positively linked to firm valuation and operating performance. Following related literature (such as Black *et al.*, 2006), several firm-specific characteristics are included as control variables. Firm-specific control variables include, firm size (measured as the natural logarithm of assets), firm age (i.e., natural logarithm of the number of years since listing), growth potential of the firm (i.e., 3-year average asset growth), leverage (i.e., ratio of total debt to shareholders' equity<sup>3</sup>), investments (i.e., investment-to-net income), intangible assets (i.e., advertisement-to-sales), and 4-digit industry dummies. Both firm size and firm age are expected to be negatively associated with financial performance measures. Growth potential, leverage, investment and intangible assets are expected to have positive associations with financial performance measures. We use Ordinary Least Square (OSL) estimation technique to estimate our model.

A growing body of literature (see, Gompers *et al.*, 2003; Demsetz and Villalonga, 2001) puts forward the issues of endogeneity and reverse causality with reference to the association between corporate governance and financial performance. Our single equation model cannot address these issues, primarily because of the absence of time variation in the governance and financial data, along with the problem of finding appropriate instrumental variables. This remains to be a caveat of the study with respect to the causal relation between corporate governance quality and financial performance. Nevertheless, the inclusion of several firm-specific control variables and industry

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<sup>3</sup> The regression specifications of ROA, we use debt-to-asset ratio instead of debt-to-equity ratio.



dummies<sup>4</sup> in the OLS model is likely to minimize omitted variable and optimal difference (Black *et al.*, 2006) problems in the empirical estimation. Moreover, the robustness of the empirical effect of corporate governance is tested across sub-samples. As part of the robustness tests, a similar regression model is estimated by replacing the CGI with each of the three individual governance sub-indices, namely the shareholders' rights, independence and responsibilities of the board and management, and financial reporting and disclosures. For diagnostics, Bera-Jarque (1981) test for normality of residuals and White's (1980) test for heteroscedasticity are performed.

#### **4. Empirical analysis**

This section explains the data including the CGI, followed by summary statistics and univariate analysis, and the regression results.

##### *4.1. The data*

This cross-sectional study is based on survey-based corporate governance data and published financial data. Amongst the 234 financial and non-financial listed firms of the prime exchange of the country that is The Dhaka Stock Exchange (DSE), 140 firms responded to the survey<sup>5</sup> (carried out by one of the authors in 2004), with the response rate being approximately 60%. The respondents of the questionnaire are the CEOs, company secretaries, executive board members, finance directors, chief accountants or other senior executives depending on the availability and accessibility. The responding firms capture nearly 86% of the total market capitalization (MC) of the DSE. The data on financial performance and other firm characteristics are collected from the annual reports of the sample firms for the latest financial year (2004-05) and the monthly reviews of the DSE.

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<sup>4</sup> Among others, Klapper and Love (2004) and Drobetz *et al.*, (2004) argue that adding appropriate control variables can be one way to mitigate the omitted variable problems.

<sup>5</sup> Readers can obtain a copy of the survey instruments from the authors.

*Corporate governance index:* In order to measure corporate governance quality of the sample firms, a corporate governance index (CGI) is constructed, consisting of three individual governance components<sup>6</sup> namely, the shareholders' rights (sub-index 1), independence and responsibilities of the board and management (sub-index 2), and financial reporting and disclosures (sub-index 3). This paper follows several studies (e.g., Black *et al.*, 2006 and Klapper and Love, 2004) in constructing a CGI, although many governance elements are modified in order to make the index compatible with the legal and regulatory issues in Bangladesh. The firm-specific scoring of the corporate governance practices in Bangladesh might not be comparable to international governance ratings. Given the persistent inefficiency in the legal and enforcement structures, this study is intended to measure the relative voluntary activism and/or legal compliance of the firm in corporate governance matters.

The distribution of CGI scores of 140 listed firms in Bangladesh (shown in table 1) reveals that the mean (median) value of the CGI is 45.59 (46.50), and the standard deviation is 21.86. The standard deviation of the CGI is relatively higher, implying a high degree of deviation of the governance scores of many firms from the average governance index. This distribution is likely to be resulted from a widespread difference in governance qualities among the sample firms in various categories (e.g., foreign versus local).

\*\*\*Insert Table 1 about here\*\*\*

Table 1 also shows the mean distribution of CGI and its sub-indices across various industrial categories. The overall governance quality of the foreign-controlled firms is found to be very high in relation to the locally-controlled firms, primarily because the former seems to follow internationally recognized best practices in many aspects of governance. In addition, controlling shareholders maintain roughly 50% ownership in the sample firms. Table 2 shows that all correlation coefficients amongst the CGI and its three sub-indices are positive, and all are statistically significant.

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<sup>6</sup> Further details of the construction of CGI are available upon request.

\*\*\*Insert Table 2 about here\*\*\*

#### 4.2. Univariate analysis

Table 3 shows the univariate relationships between corporate governance indices and different financial performance variables.

\*\*\*Insert Table 3 about here\*\*\*

Following Gompers *et al.*, (2003), we construct two extreme portfolios, namely, the ‘repressive portfolio’ (i.e., firms with poor governance quality, with CGI < 41) and the ‘moderate portfolio’ (i.e., better governed firms, with CGI > 53). Both portfolios represent the upper (45 firms) and lower (45 firms) third of the sample. The t-test results shown in Table 3 suggest that both market valuation and profitability of the moderate portfolio are higher than those of the repressive portfolio. Table 3 also shows that CGI, its three sub-indices and controlling ownership are positively correlated with all five financial performance measures. The univariate analysis appears to confirm our hypothesis in that firms with better governance quality have higher firm valuation as well as higher operating performance.

#### 4.3. The regression results

Tables 4 and 5 show OLS regression results of firm valuation and operating performance, respectively.

\*\*\*\*\* Insert Table 4 about here\*\*\*\*\*

Column 1 of Table 4 shows the regression results of Tobin’s Q for the whole sample with the governance index (CGI) and controlling ownership as the main treatment variables, along with several other control variables including, firm size, firm age, growth, leverage,

investments, intangible assets, and industry dummies. It is revealed that the CGI, ownership and firm age have statistically significant positive associations with Tobin's Q, whereas leverage shows a negative relationship with firm value. Column 2 shows identical results for the non-financial firms, although leverage turns out to be insignificant. Columns 3-4 show the regression results of similar specification with market-to-book ratio as the dependent variable. It is revealed that only CGI, controlling ownership and leverage give positive and statistically significant results.

\*\*\*\*\* Insert Table 5 about here\*\*\*\*\*

Table 5 shows similar specification results by replacing the valuation measures with three alternative measures of firm profitability such as, return on assets (ROA), return on equity (ROE), and net profit margin (NPM). Overall, CGI as well as controlling ownership and other firm characteristics show statistically insignificant or inconclusive results in the regressions of ROA and ROE. However, CGI maintains statistically significant positive association with NPM.

## **5. Analysis and interpretation of the results**

Overall, the regression results suggest that corporate governance quality is positively associated with a firm's valuation, although the relationship between firm level corporate governance and operating performance seems inconclusive.

### *5.1. Corporate governance and firm valuation*

The regression results show that the difference in a firm's governance quality (e.g. CGI) can explain the variability in firm valuation (as measured by Tobin's Q and market-to-book ratio). The results also confirm the prediction of the agency theory that better firm-level corporate governance enhances firm value. This study also finds controlling ownership being positively linked with firm valuation, which is consistent with the agency theory-based literature. The explanatory power of governance quality seems to

remain robust even after controlling for several firm characteristics such as, firm size, firm age, growth, leverage, investments, intangible assets, and industry dummies.

This evidence corroborates with several notable studies (e.g., Morey *et al.*, 2009; LLSV, 2002; Gompers *et al.*, 2003; Durnev and Kim, 2005) that find better corporate governance having a positive effect on firm value. This result is also consistent with the empirical findings of other country-specific studies in Korea, (Black *et al.*, 2006), India (Balasubramanian *et al.*, 2010), Brazil (Braga-Alves and Shastri, 2011), and Mexico (Price *et al.*, 2011).

The hypothesized positive association between corporate governance quality and firm valuation is also substantiated by positive relationships<sup>7</sup> between individual governance elements (e.g., shareholder rights, responsibility and independence of the board and management, and transparency and disclosures) and valuation measures. Therefore, it is evident that better governance quality helps firms to enhance their market value through stronger shareholder rights, more responsible and independent behaviors of the board and management, and better financial reporting and disclosure practices.

## *5.2. Corporate governance and operating performance*

Whilst our results show corporate governance quality (CGI) having a statistically significant positive association with net profit margin (NPM), and thus supports the evidence of Gompers *et al.*, (2003), the relationship between CGI and firm profitability (e.g., ROA, ROE) seems inconsistent. Price *et al.*, (2011) outline a number of reasons for such findings in the context of a developing economy. These include highly concentrated family ownership, lack of investor protection, high level of board interlocking and concerns about the true independence and monitoring by the board. They also argue that market monitoring mechanisms and mandatory requirement in governance related disclosures are not enough to create fundamental economic improvements. All of these

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<sup>7</sup> These results are not shown but are available upon request

factors seem to be plausible explanations for inconsistent empirical relationship between CG and operating performance in the context of Bangladesh.

This study finds that controlling shareholders not only use their concentrated shareholding to exercise absolute control rights, but also ensure controlling shareholder-aligned board and management to influence all corporate matters and boardroom politics. As Silva and Majluf (2008) argue, increased ownership concentration makes the expropriation more likely, because the controlling owners have enough control to run the firm in a less than optimal way and drive other private benefits outside the firm. We also find that the critical issue of board independence and transparency is also constrained by a high level of board interlocking, longer directorship tenure, and the dual role of the family-aligned CEOs. The direct or indirect interference of controlling shareholders in both financial and non-financial firms appears to have inhibited the development of corporate culture in relation to the independence and professionalism of the executive management. This powerful interest group appears to take full advantage of the country's weak legal and regulatory structures through various forms of manipulation and expropriation.

The evidence of a positive association between CG quality and firm valuation might also be resulted from increased investors' confidence and their optimism about the firms' future cash flows, a notion that is consistent with the signaling effect of CG (see also, Chhaochharia and Laeven, 2009). However, better governance practices of a limited number of foreign and locally-reputable firms might not be enough to mitigate controlling shareholders' expropriation (agency) costs in the majority of the firms. Moreover, at the initial stage of CG reform in developing economies, the costs of implementing better governance standards are likely to be higher than the benefits of improved operating performance. As Doidge et al., (2007) observe, better governed firms in less-developed countries might find the benefit from good governance to be too small to justify the costs. All of these factors might have caused inconclusive evidence on the relationship between CG index and firm profitability. Claessens (2003) also argue that the conflict of interests between controlling shareholders and minority shareholders could

lead to a higher cost of capital and lower firm valuation, but not necessarily result in lower profitability. This is because firms in many weak corporate governance countries<sup>8</sup> not only deprive their shareholders of receiving fair dividends, but also manipulate the accounting profits.

Similarly, Klapper and Love (2004) argue that firms can improve their investors' protection to a certain degree, but this does not fully substitute for the absence of strong legal and enforcement structures. Silva and Majluf (2008) also argue that a more intense disciplinary role of the market forces the controlling shareholders to become more accountable to minority shareholders. Lu and Yao (2009) observe that an economy of financial repression needs to remove market and institutional rigidities that facilitate rent-seeking behavior than to strengthen the legal system. Furthermore, Afsharipour (2009) observes that formal rules based on Anglo-American model will play an important role in the CG setting of an emerging economy, but reform cannot be widely instituted without proper enforcement institutions and widespread political support.

## **6. Conclusions and policy implications**

This paper investigated the effect of the firm-level corporate governance on market as well as accounting-based financial performance of a firm. This study finds that a group of foreign and locally-reputable firms not only comply with the existing out-of-date regulatory provisions, but also voluntarily adopt better governance practices. The evidence confirms the prediction of the agency theory in that corporate governance quality is positively associated with firm valuation. Given the poor state of capital market in Bangladesh, the results suggest that investors have confidence in better-governed firms, and that such firms are being properly rewarded by the market in terms of higher firm valuation. The estimation results of the governance sub-indices also suggest that higher controlling ownership, better outside shareholder rights, independent behavior of

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<sup>8</sup> For example, closely-held or insider-controlled firms in developing economies can exploit the lax corporate governance environment by depriving shareholders from getting dividends, manipulating accounting profits, or taking advantage of higher growth opportunities in the economy.

the board and management, and better disclosure standards tend to have positive influences on firm valuation.

Notwithstanding the highly significant positive influence of corporate governance on firm valuation, the relationship between corporate governance and operating performance appears inconsistent. This is likely because the possibility of a considerable amount of agency costs associated with the controlling shareholders' expropriation in the majority of local firms is less likely to be mitigated by the better governance practices of a limited number of reputable firms. The lack of investors' awareness of corporate governance issues, together with the capital market-related malfunctions and the poor country-level governance has also played a part. Without eliminating these malfunctions, the effect of corporate governance reform on a firm's overall performance, and thus on corporate sector development, is less likely to be fully materialized.

In addition to its contribution to the existing literature, the evidence seems to have important policy implications in relation to the significance of both institutional and firm-level corporate governance in developing economies. Whilst this study reveals a positive influence of the firm-level governance quality on firm value, it recognizes a strong governance role for the legal and enforcement structures to create a culture of compliance and to discipline the errant firms. This will enhance the process of creating and transferring economic value across various stakeholders of a firm.

In this connection, this study suggests politically-motivated reform initiatives at both firm and institutional levels to remove governance malfunctions in the capital market as well as in firms, in order that the value of a firm is reflected in the share price. It is also important to develop close co-operation and co-ordination amongst the government and self-regulatory institutions to make sure that transparency and accountability are maintained and the shareholders' and other stakeholders' rights are protected. This study also suggests a balance between voluntary adoption and mandatory compliance of governance practices. This will eventually encourage more foreign and local firms,



increase investors' confidence, help investors and depositors to make ideal investment decisions, and maximize mutual benefits of the firm as well as the investors.

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Table 1  
Mean values of corporate governance index across the sample firms

Sectors	CG Index	Shareholder Right	Board & Management	Disclosure	Controlling Shareholding	n
Financial Sector	59.04	20.08	17.09	21.87	52.82	39
Non-Financial Sector	40.40	15.62	10.03	14.74	49.15	101
Foreign-Controlled Firms	75.00	26.39	25.00	23.62	68.74	12
Locally-Controlled Firms	42.84	15.97	10.78	16.08	48.43	128
Total	45.59	16.87	12.00	16.73	50.17	140

Source: Prepared by one of the authors based on a questionnaire survey conducted in 2004.

Table 2

Correlation matrix for corporate governance index and sub-indices

Categories	<i>All Firms (n = 140)</i>			<i>Non-Financial Firms (n = 101)</i>		
	CG Index	(Sub-index-1)	(Sub-index-2)	CG Index	(Sub-index-1)	(Sub-index-2)
Shareholder Rights (Sub-index-1)	0.893***	1		0.909***	1	
Board (Sub-index-2)	0.821***	0.600***	1	0.808***	0.628***	1
Disclosure (Sub-index-3)	0.880***	0.722***	0.630***	0.868***	0.742***	0.565***

Note: \*\*\*, \*\* and \* indicate statistical significance at 1% level.

Table 3  
Corporate governance and several firm characteristics

Variables	<i>Mean Ratios</i>				<i>Correlation with CGI, Sub-indices and Ownership</i>				
	All	REP.	MOD.	Difference (t-stat.)	CGI	Sub-1	Sub-2	Sub-3	Sponsor Shareholding
	1	2	3	4	5	6	7	8	9
Q	1.36	0.92	1.82	-0.90***	0.67***	0.63**	0.53**	0.56***	0.29***
MB	1.89	0.70	3.53	-2.82***	0.73***	0.65***	0.57***	0.64***	0.23***
NPM	0.002	-0.22	0.12	-0.34***	0.65***	0.59***	0.52***	0.61***	0.19**
ROE	0.29	-0.01	0.83	-0.84*	0.60***	0.53***	0.57***	0.51***	0.33***
ROA	-0.01	-0.11	0.06	-0.16**	0.54***	0.56***	0.32***	0.49***	0.18**
AG	0.124	0.04	0.22	-0.18***	0.43***	0.31***	0.45***	0.40***	0.21***
Lvg	4.95	2.66	8.71	-6.05***	0.29***	0.24**	0.28***	0.28***	-0.23***
Size	13.70	12.80	14.74	-1.93***	0.48***	0.37***	0.49***	0.48***	0.14*
<i>n</i>	140	45	45		140	140	140	140	140

*Notes:* The table is based on primary data on 140 listed firms (101 non-financial and 39 financial) in Bangladesh. Firms with the CGI of less than 41 are placed in the repressive portfolio (denoted as REP), whilst the moderate portfolio (e.g. MOD) consists of the firms with the CGI of greater than 53. Column 4 shows the difference (t-statistics) in the means of firm characteristics between the two portfolios. \*\*\*, \*\* and \* indicate statistical significance at 1, 5 and 10% levels, respectively.

Table 4  
OLS regression results of Tobin's Q and MKT2BK against the corporate governance index (CGI)

Dep. Var.	<i>Q</i>		<i>MKT2BK</i>	
Expl. Var.	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>
Intercept	0.282 (0.561)	0.005 (0.690)	0.619 (1.496)	-0.595 (1.558)
CGI	0.030*** (0.004)	0.035*** (0.005)	0.064*** (0.010)	0.066*** (0.011)
Sponsor shareholding	0.007** (0.003)	0.008** (0.004)	0.016** (0.007)	0.018** (0.008)
Intangible Assets	0.497 (0.550)	0.338 (0.604)	2.148 (1.468)	1.966 (1.364)
Leverage	-0.009** (0.004)	0.003 (0.012)	0.136*** (0.012)	0.141*** (0.027)
Investment	0.000 (0.001)	0.000 (0.001)	-0.002 (0.001)	-0.001 (0.001)
Growth	0.149 (0.170)	0.047 (0.200)	0.767* (0.454)	0.179 (0.451)
Size	-0.038 (0.043)	-0.038 (0.050)	-0.138 (0.114)	-0.123 (0.112)
Age	0.116** (0.056)	0.145* (0.080)	-0.285* (0.150)	0.119 (0.181)
Ind. Dummies	4-digit	4-digit	4-digit	4-digit
F-statistics	8.97***	9.06***	15.39***	7.320***
Adjusted R <sup>2</sup>	0.559	0.608	0.696	0.548
N. of Obs.	138	99(NF)	136	97(NF)
Normality [ $\chi^2(2)$ ]	4.09	4.06	5.65	4.97
Heteroscedasticity [ $\chi^2(1)$ ]	2.99	3.56	1.99	2.34

Notes: \*\*\*, \*\* and \* indicate statistical significance at 1, 5 and 10% levels, respectively. The figures in parentheses are the heteroscedasticity-adjusted standard errors.



Table 5

OLS regression results of ROA, ROE and NPM against the corporate governance index (CGI)

Dep. Var.	ROA		ROE		NPM	
Expl. Var.	1	2	3	4	5	6
Intercept	0.050 (0.313)	0.163 (0.428)	-3.794** (1.636)	-0.258 (0.301)	0.079 (0.379)	0.231 (0.495)
CGI	8.84E-5 (0.002)	0.000 (0.003)	0.005 (0.011)	0.007*** (0.002)	0.013*** (0.003)	0.016*** (0.004)
Sponsor shareholding	0.002 (0.002)	0.002 (0.002)	0.023*** (0.008)	0.006 (0.002)	-0.001 (0.002)	-0.002 (0.003)
Intangible Assets	0.138 (0.316)	0.154 (0.377)	-1.310 (1.606)	-0.025 (0.246)	0.176 (0.372)	0.120 (0.433)
Leverage	-0.322*** (0.043)	-0.329*** (0.054)	0.142*** (0.013)	-0.066*** (0.005)	0.004 (0.003)	0.004 (0.008)
Investment	0.000 (0.000)	0.000 (0.000)	0.000 (0.002)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Growth	-0.033 (0.097)	-0.070 (0.124)	0.585 (0.496)	0.103 (0.087)	0.228** (0.115)	0.224 (0.143)
Size	0.006 (0.024)	-0.005 (0.031)	0.196 (0.125)	-0.003 (0.022)	-0.028 (0.029)	-0.042 (0.036)
Age	0.005 (0.032)	0.014 (0.050)	-0.231 (0.165)	-0.013 (0.035)	0.010 (0.038)	0.011 (0.057)
Ind. Dummies	4-digit	4-digit	4-digit	4-digit	4-digit	4-digit
F-statistics	4.155***	3.448***	9.311***	16.341***	3.630***	2.720***
Adjusted R <sup>2</sup>	0.335	0.320	0.570	0.746	0.295	0.248
N. of Obs.	138	99(NF)	136	97(NF)	137	96(NF)
Normality [ $\chi^2(2)$ ]	4.16	0.57	4.96	2.23	4.67	5.54
Heteroscedasticity [ $\chi^2(1)$ ]	3.48	5.20	0.04	1.03	0.67	0.05

Notes: \*\*\*, \*\* and \* indicate statistical significance at 1, 5 and 10% levels, respectively. The figures in parentheses are the heteroscedasticity-adjusted standard errors.